

CLAIMS

1. An enzyme that releases an amino acid having a glydated α -amino group from a glydated protein or a glydated peptide. *wherein the amino acid is valine*
2. An enzyme according to claim 1 derived from a bacterial strain of a genus *Corynebacterium*.
3. An enzyme according to claim 2, wherein the bacterial strain of the genus *Corynebacterium* is *Corynebacterium ureolyticum* KDK1002 (FERM P-17135).
4. An enzyme according to claim 1 derived from a bacterial strain of a genus *Pseudomonas*.
5. An enzyme according to claim 4, wherein the bacterial strain of the genus *Pseudomonas* is *Pseudomonas alcaligenes* KDK1001 (FERM P-17133).
6. An enzyme according to any one of claims 1 to 5, wherein the amino acid having a glydated α -amino group to be released is valine having a glydated α -amino group.
7. A method of determining a glydated protein or a glydated peptide comprising:
 - degrading a glydated protein or a glydated peptide with an enzyme to give a degradation product;
 - causing a redox reaction between the degradation product and a fructosyl amino acid oxidase; and
 - determining the redox reaction so as to determine the amount of the glydated protein or the glydated peptide,
 wherein an enzyme according to any one of claims 1 to 5 is used as the enzyme.
8. A method according to claim 7, wherein the glydated protein to be determined is glydated hemoglobin.

Sub A2
5 9. A kit for determining a glycated protein or a glycated peptide comprising:
a protease;
a fructosyl amino acid oxidase;
a peroxidase; and
a substrate that is oxidized through a reaction with the peroxidase,
wherein the protease comprises an enzyme according to any one of
claims 1 to 5.

10 10. A bacterial strain of a genus *Corynebacterium* which produces an
enzyme which releases an amino acid having a glycated α -amino group from a
glycated protein or a glycated peptide

15 11. A bacterial strain according to claim 10,
wherein the bacterial strain of the genus *Corynebacterium* is
Corynebacterium ureolyticum KDK1002 (FERM P-17135).

12. A bacterial strain of a genus *Pseudomonas* which produces an enzyme
which releases an amino acid having a glycated α -amino group from a
glycated protein or a glycated peptide.

20 13. A bacterial strain according to claim 12,
wherein the bacterial strain of the genus *Pseudomonas* is
Pseudomonas alcaligenes KDK1001 (FERM P-17133).

25 14. A substrate for detecting an enzyme according to any one of claims 1 to 5
or for determining an activity of the enzyme comprising:

Sub B3
30 an amino acid; and
a detection group,
wherein the amino acid has a glycated α -amino group,
the detection group is bound to an α -carboxyl group of the amino acid
by an amide linkage or ester linkage, and
the detection group cannot be detected in its binding state whereas it
can be detected if released.

35 15. A substrate according to claim 14,
wherein the detection group is at least one selected from the group
consisting of paranitroanilide, paranitrophenol, β -naphthylamide, 4-methoxy-
 β -naphthylamide, and 4-methyl-coumaryl-7-amide.